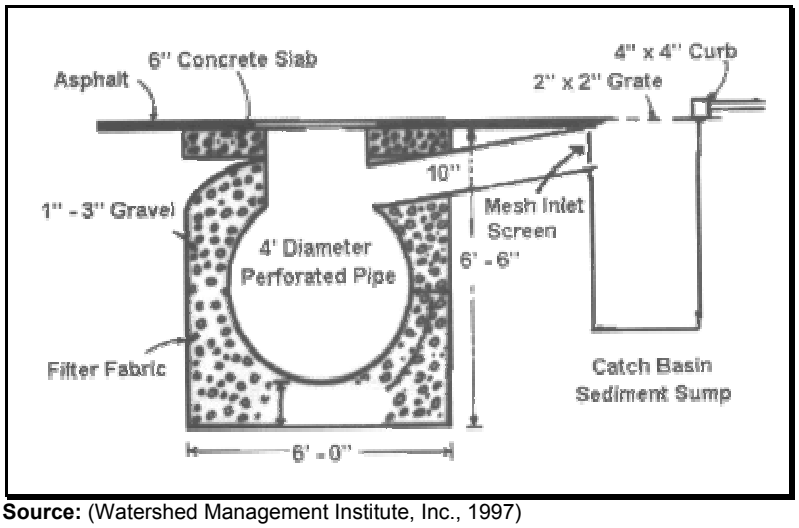
Exfiltration Trench



Source: (Watershed Management Institute, Inc., 1997)

General Description

Exfiltration trench consists of a perforated or slotted pipe laid in a bed of filter media, such as sand. They are similar to infiltration trenches with the exception they can be placed below paved surfaces such as parking lots and streets. The exfiltration trench performs well at removal of fine sediment and pollutants. Pretreatment using buffer strips or swales is important for limiting amount of coarse sediment entering the pipe, which can clog the surrounding filter media and render it ineffective.

Inspection/Maintenance Considerations

Successful operation depends on maintaining the percolation rate of the trench's sides and bottom. The keys to long-term performance are accurate estimation of percolation rate, proper construction, pretreatment, offline design, and maintenance accessibility. Frequency of clogging is dependent on effectiveness of pretreatment, such as vegetative buffer strips and street sweeping, at removing sediments. Accumulated sediments need to be removed from the pipe to allow percolation into filter media. If filter media becomes clogged, it can be expensive to remove pipe and replace media to allow for proper percolation.

Maintenance Concerns, Objectives, and Goals

- Accumulation of metals
- Clogged Soil Outlet Structures
- Vegetation/Landscape Maintenance

Targeted Constituents

✓	Sediment	■
✓	Nutrients	■
✓	Trash	■
✓	Metals	■
✓	Bacteria	■
✓	Oil and Grease	■
✓	Organics	■
✓	Oxygen Demanding	■

Legend *(Removal Effectiveness)*

● Low ■ High

▲ Medium

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Inspection Activities	Suggested Frequency
■ Inspect to assure exfiltration trench was installed and working properly.	Immediately following construction
■ Inspect pretreatment BMP for potential erosion and sediment accumulation. ■ Inspect observation well to determine percolation rate. ■ Inspect pipe for accumulated sediments.	Annually, or as needed
Maintenance Activities	**Suggested Frequency**
■ Remove accumulated solids from pretreatment BMPs to prevent transport into trench. ■ Implement source controls, such as street sweeping and landscape practices, to reduce sediment transport. ■ Vacuum out sediment and debris that accumulated within exfiltration pipe. High pressure cleaning of the holes or slots in the pipes may be needed to reduce clogging. ■ Remove sediments which accumulate within the aggregate envelope, or replace aggregate if needed.	Annually, or as needed

References

Operations, Maintenance, and Management of Stormwater Management Systems (Watershed Management Institute, Inc., 1997)